

A FOSSIL SPIDER FROM TERTIARY RETINITE  
AT ALLENDALE, VICTORIA

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The following account deals with a fossil spider found in a lump of retinite from a deep lead at Allendale, Victoria. The geological age of the material is thought to be Upper Tertiary and may be Pliocene. I am indebted to Professor E. S. Hills and Professor O. W. Tiegs for the opportunity of examining the specimen, which is preserved in the Geology Department, University of Melbourne [Reg. No. 1978].

Unfortunately the spider is not complete. The cephalothorax, chelicerae, pedipalpi, and second, third and fourth legs of the right side are well preserved, but the fracture surface of the piece of retinite has passed through the other appendages and has cut off the distal podomeres, which, with the exception of the tip of the tarsus of one of the front legs, are lacking. Moreover the abdomen is shrivelled and cannot be seen clearly. A photograph of the spider *in situ* in the retinite is shown in Plate VI.

The spider is a male specimen belonging to the genus *Ariadna* and is the first fossil spider to be recorded from Australia. The name *Ariadna resinæ* is proposed.

In the recent fauna of Australia and other parts of the world the genus *Ariadna* is represented by a number of species. One has been recorded from Victoria and three from Tasmania. Others are known to occur in South Africa, Ceylon, Japan, Brazil and elsewhere. No member of the genus has been previously recorded as a fossil. However, the closely related genus *Segestria* is represented by several fossil species found in Baltic Amber of the Oligocene Period.

Spiders belonging to the genus *Ariadna* live in long slender silken tubes, which they construct in holes and crevices of trees, in the ground or under stones. During the late autumn and winter months the males often leave their tubular nests and live a wandering existence. This fact suggests that it may have been autumn or winter when the spider under consideration was engulfed in the liquid resin, which later became converted into solid retinite.

The systematic description of the specimen is as follows:

Order ARANEAE

Family SEGESTRIIDAE

Genus *Ariadna* Audouin, 1825

*Ariadna resinæ* sp. nov.

MALE

*Colour.* Carapace, chelicerae, maxillae and labium dark brown. Legs, pedipalpi and sternum a lighter shade of brown.

*Carapace* oval in shape, 3.20 mm. long, 2.08 mm. wide between second and third coxae. Thoracic groove small and longitudinal. Sides of carapace gently rounded. Surface clothed with short hairs.

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*Eyes.* Six, oval in shape, equal in size and arranged in three pairs, the two eyes of each pair being contiguous (Fig. 1 A). The width of the eye-group measures 0.93 mm. The median eyes and the posterior lateral eyes form a slightly recurved row. The distance separating the median eyes from the lateral eyes is about equal to the long diameter of a median eye. The distance of the median eyes from the margin of the clypeus is about twice the diameter of a median eye.

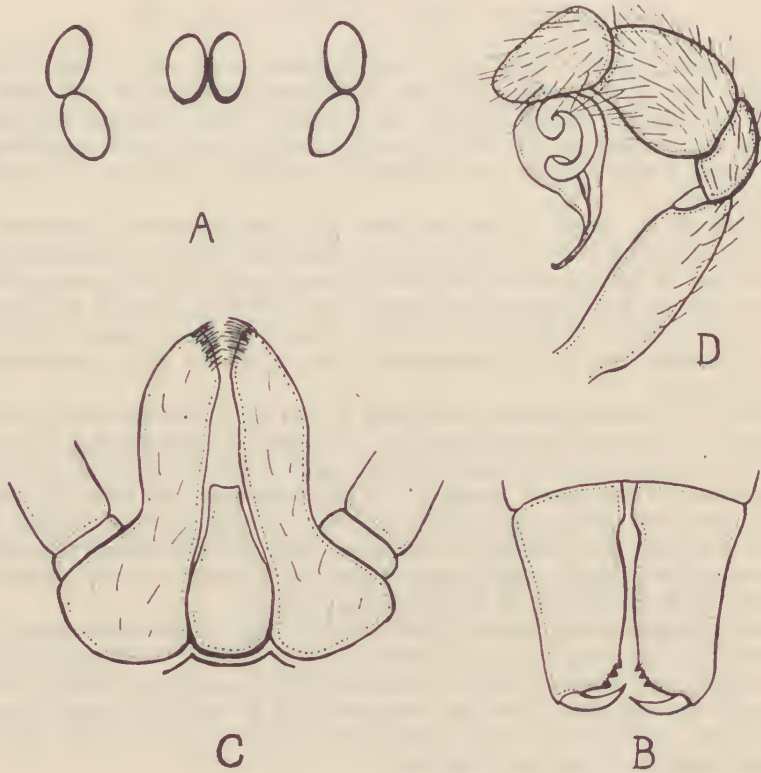


FIG. 1.—*Ariadna resiniae* sp. nov.

- A. Eye-group.
- B. Front view of chelicerae.
- C. Maxillae and labium.
- D. Prolateral view of pedipalpus showing the genital bulb and the spiral receptaculum seminis within it.

*Chelicerae* 1.16 mm. long, conical, clothed with short hairs. Promargin has a row of three small teeth. The retromargin cannot be clearly seen. Fang short and curved. (Fig. 1 B.)

*Maxillae* long, narrow, almost parallel and extending slightly beyond the chelicerae. Scopula on the inner margin near apex. (Fig. 1 C.)

*Labium* longer than wide, surpassing the middle of the maxillae. Sides rounded. Apex narrow, truncated and slightly emarginate. (Fig. 1 C.)

*Sternum* oval, much longer than wide and narrowed in front to width of labium. Surface clothed with a few short hairs.

*Legs.* As is usual in spiders of this genus the third pair of legs as well as the first and second pairs are directed forwards, the fourth pair backwards. Trichobothria, scopula and claw-tufts wanting. Three tarsal claws present. The upper claws have six teeth. The lengths of the segments of the legs and pedipalpi are given in millimetres in the following table:

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
1	3.19	?	?	?	?	?
2	2.96	1.16	2.84	2.78	1.16	10.90
3	1.86	1.10	1.80	1.86	0.87	7.49
4	2.90	1.04	2.32	2.03	0.98	9.27
Palpi	0.93	0.46	0.69	—	0.64	2.72

In the case of the first pair of legs all segments except the femora are lacking.

*Spines.* *First leg*—Femur-dorsal 1-1-1 small spines, prolateral 2 near apex, elsewhere 0. Other segments missing. *Second leg*—Femur-dorsal 0-1-0. Tibia-prolateral 1-1-1, ventral 2-2-2-2. Elsewhere 0. *Third leg*—Femur-dorsal 1 near middle. Tibia-ventral 1-1-1. Elsewhere 0. *Fourth leg*—Femur-dorsal 1-1 in basal half. Tibia-prolateral 1-1. Elsewhere 0. All spines are very small. It is probable that some have been dislodged or rubbed off during the spider's struggles in the liquid resin.

*Palpi.* The form of the right palpus is shown in Fig. 1 D. The tibia is somewhat swollen. A small spine is present on the dorsal side of the femur near the middle. Elsewhere spines are absent. The genital bulb is pyriform with its apex produced into a fine point, the tip of which is curved round in the form of a short hook. The spirally coiled receptaculum seminis inside the bulb is clearly visible.

*Abdomen.* As mentioned above the abdomen is so shrivelled that it is impossible to see its features.

### Acknowledgements

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